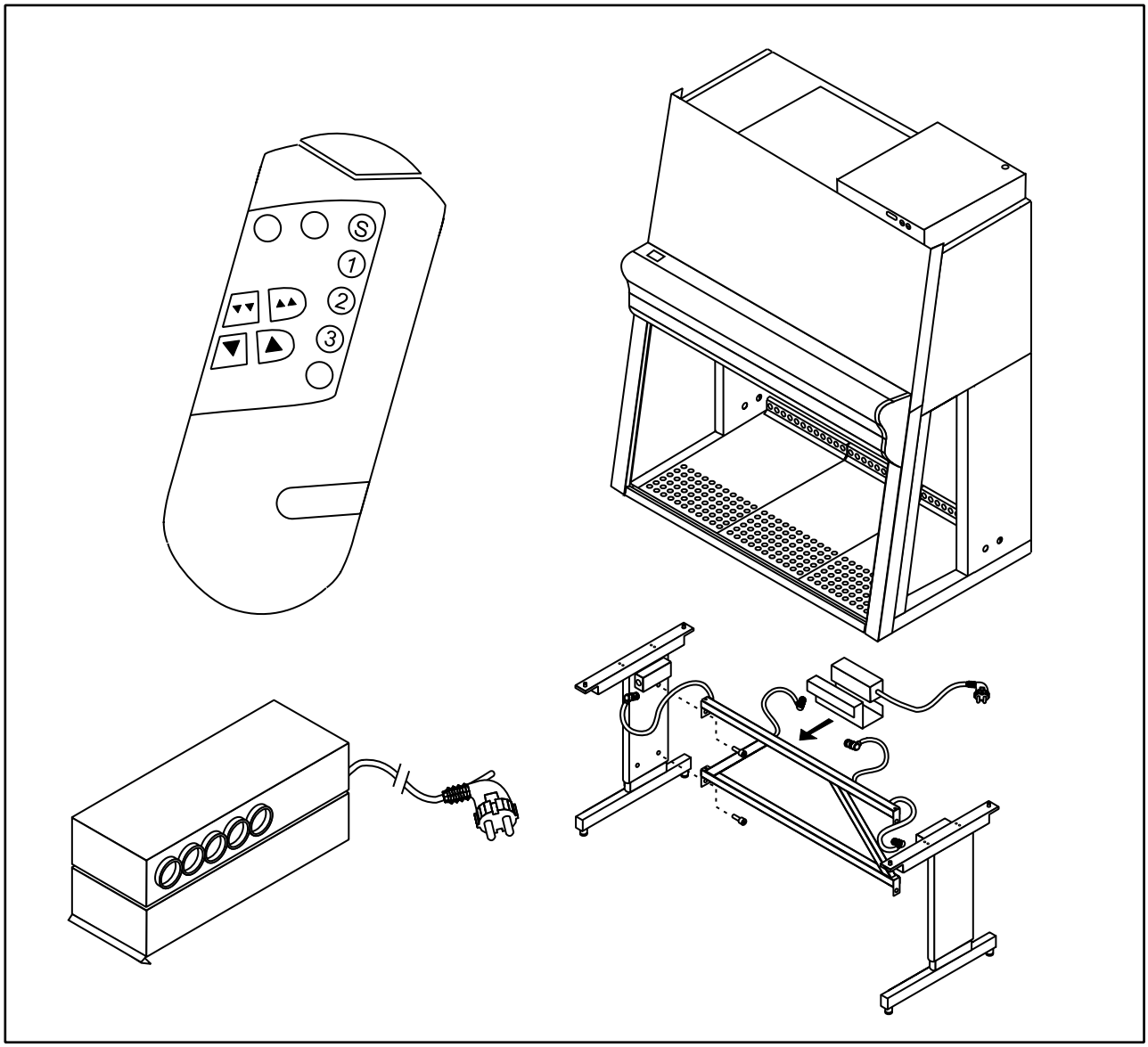
Kendro®

Operating Instructions

Electronically height-adjustable rack for safety cabinet HERAsafe



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1. General notes

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1. General notes

1.1 Safety instructions

These safety instructions describe the height-adjustable rack for the safety cabinet HERAsafe.
The height-adjustable rack has been manufactured in keeping with the latest technological developments and has been tested before delivery for its correct function. It may, however, present potential hazards if it is not used according to the intended purpose or outside of operating parameters. Therefore, the following procedures must always be observed for safety reasons:

- The height-adjustable rack must be operated only by trained and authorized personnel.
- Repairs to the rack must be carried out only by trained and authorized expert personnel.
- The contents of the operating instructions are subject to change without further notice.
- For translations into foreign languages, the German version of these operating instructions is binding.lease
- Keep these operating instructions close to the device so that safety instructions and important information are always accessible.
- Should you encounter problems that are not detailed adequately in these operating instructions, please contact Kendro Laboratory Products immediately for your own safety.

1.2 Warranty

Kendro Laboratory Products warrant the operational safety and functions of the electronically height-adjustable rack only under the condition that:

- the rack is operated and serviced exclusively in accordance with its intended purpose and as described in these operating instructions,
- the rack is not modified,
- only original spare parts and accessories that have been approved by Kendro Laboratory Products are used.

Der Gewährleistungszeitraum beginnt mit der Auslieferung der Vorrichtung an den Besteller.

1. General notes

1.3 Explanation of symbols

WARNING!

is used if non-observance may cause serious or even lethal injuries.

CAUTION!

is used if non-observance may cause medium to minor injuries or damage.

NOTE!

is used for hints and useful information.

RECYCLING!

Valuable raw materials can be reused.

1.4 Use of the device

1.4.1 Correct use

The electronically height-adjustable rack is the height-variable floor stand for the safety cabinet HERAsafe.
Prior to the initial operation of a safety cabinet in combination with the electronically height-adjustable rack, the operator must perform an installation test. The test result must be documented by a test report. The device must only be released for operation if it is in compliance with the operating parameters specified by Kendro Laboratory Products.

1.4.2 Incorrect use:

The electronically height-adjustable rack in combination with the safety cabinet must not be used in laboratories that do not comply with the requirements of safety levels 1, 2, and 3.
The device must not be operated as a microbiological Class II safety cabinet if no repeat test is performed after changes to the installation conditions or after modifications to the technical system of the device.

2. Delivery

2.1 Standard equipment

The standard equipment of the electronically height-adjustable rack includes the following:

- 2 sidemembers with electric drive
- crossmember
- cable connections and screw connection hardware

- synchronizer module
- cable ducts with self-adhesive film
- remote control

2.2 Acceptance inspection

After the rack has been delivered, immediately check the rack:
- for completeness,
- for possible damage of the rack components.

If the delivery is incomplete or if you detect any transport damage to the rack, contact the forwarding agency and Kendro Laboratory Products immediately.

3. Installation

3.1 Ambient conditions

The operational safety and correct function of the rack depend on the location where it is to be operated. The safety cabinet in combination with the electronically heigh-adjustable rack must be operated only at locations that meet the ambient conditions listed below.

Location requirements:

- The electrical system of the device has been designed for an operating height of up to 2000 m above sea level.
- The flooring of the location must be adequately strong and not flammable.
- The room in which the device is installed must be of adequately height. For devices not connected to an exhaust system, the distance between the exhaust air opening at the device ceiling and the room ceiling must be at least 200 mm.
- The temperature within the room must be between 15° C and 40° C.
- The relative humidity in the vicinity of the device must not exceed 90 %.

NOTE - Flexible connections

If the safety cabinet is connected to an exhaust system or if media connections are installed, flexible connections are required.

NOTE - Temporary storage

If the rack and the electronic components are stored only temporarily (up to four weeks), the ambient temperature may be between -20° C and +60° C at a relative air humidity of up to 90 %. For longer storage periods, the location requirements apply.

4. Start-up

4.1 Installation of the rack

Fig. 1: The height of the height-adjustable rack can be set within a range of 680-880 mm. Both sidemembers [6] have their own electromagnetic drive [2] that is controlled by the synchronizer module [4]

1. **Fig. 1:** Secure the two sidemembers [8] and [11] to the crossmember [9] using the screws [10].
2. Install the panel [5] to the upper bar of the crossmember and place the synchronizer module [4] onto the panel.
3. Install the self-adhesive cable ducts to the left and right of the synchronizer module to the upper bar of the crossmember.
   Make sure that the contact surfaces are dust- and grease-free.
   Remove the cable duct covers, pull the backing from the rear panel and push the cable ducts on firmly at the mounting position.
4. Route the connecting cables through the cable ducts.
   Connect one end of the connecting cable [3] for the left motor drive [2] to the receptacle [15] of the synchronizer module [4] and one end of the connecting cable [6] for the right motor drive [7] to the receptacle [16] of the synchronizer module [4].
   Connect the other ends of the connecting cables to the left and right motor drives.
5. Install the covers to the cable ducts.
6. Place the safety cabinet onto the rack so that it is secured by the locating pins [13]. Secure the housing to the rack by installing the screws through the four holes [12] on the sidemembers.
7. Align the safety cabinet working area. Place a bubble level onto the workplate and rotate the stands [14] of the rack using an open-end wrench (size 24 mm) until the workplate is exactly horizontal in all directions. For the height adjustment of the rack stands, proceed from left to right and from rear to front.

NOTE - Climatic conditions

To ensure the correct operation of the synchronizer module, the safety cabinet must be installed at a location where it is not exposed to direct heat or humidity.

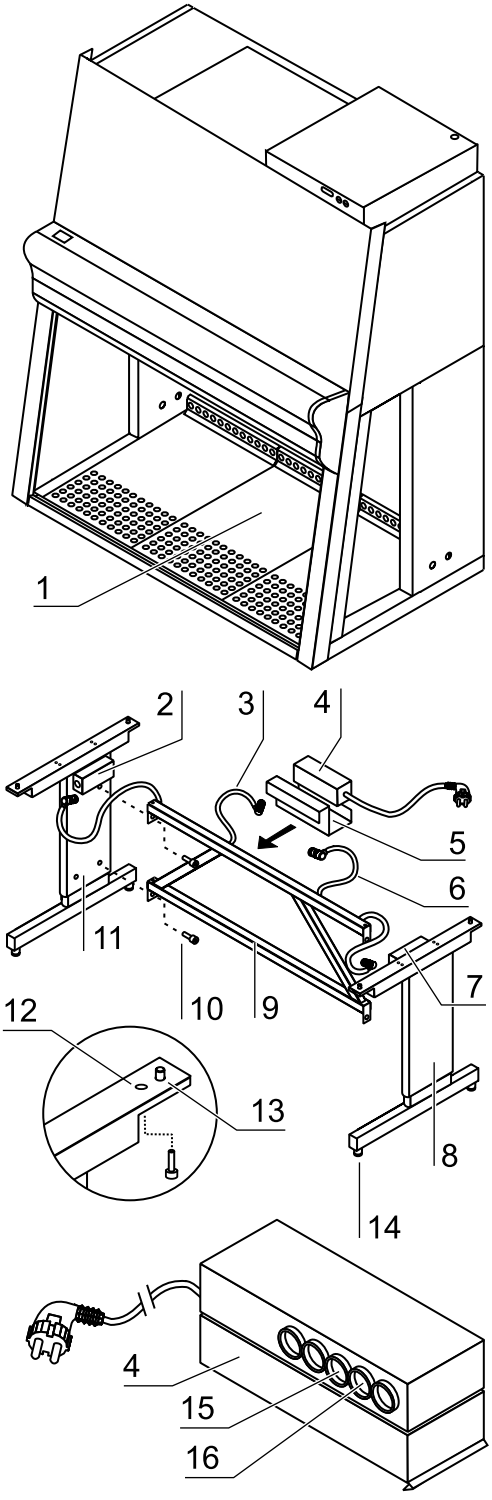

Fig. 1
Rack assembly

4. Start-up

4.2 Connecting the remote control

Fig. 2: The height adjustment of the rack is remote-controlled. The remote control handset [1] is connected directly to the receptacle of the synchronizer module; the connecting cable supplies the handset with voltage.

1. Connect the connector [2] of the connecting cable to the receptacle [5] of the synchronizer module [4].

WARNING – High voltage!

Contact with current-carrying components may cause a lethal electric shock.
Before connecting the device to the power supply system, check plug and power supply cable for possible damage.
Do not use damaged components to connect the device to the power supply system!
Check the routing of the connecting cables. The traveling motion of the rack must not cause the connecting cables to be pinched or squeezed!

2. Connect the grounding plug [3] of the synchronizer module to a properly grounded and fused outlet.
3. Make sure that the cables are not subject to tensile or pressure forces and that the traveling motion of the rack does not cause the connecting cables to be pinched or squeezed.

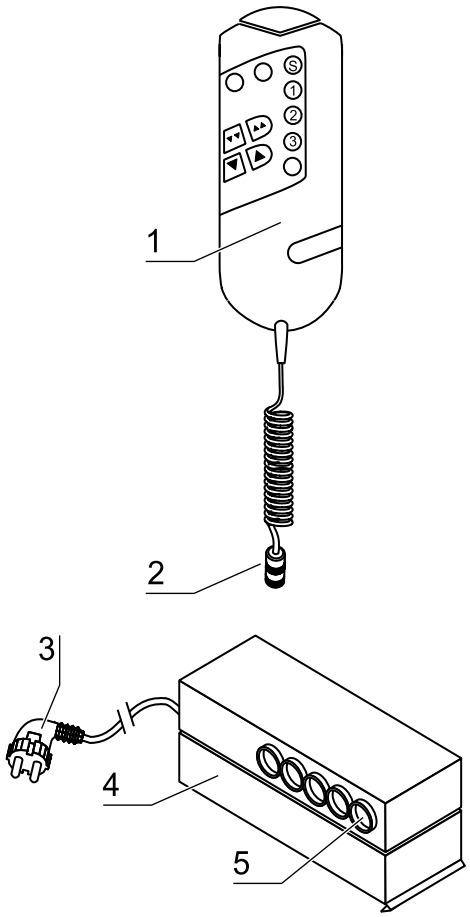

Fig. 2
Remote control connection

4. Start-up

4.3 Remote control buttons

Fig. 3: The handset has a total of seven function buttons.
[1] Reset button ○ for reinitializing the control.

[2] Down button ▼▼ for lowering the rack.

[3] Up button ▲▲ for raising the rack.

[4] Store button Ⓢ for selecting the store function.

[5] Memory button ① for storing position 1.

[6] Memory button ② for storing position 2.

[7] Memory button ③ for storing position 3.

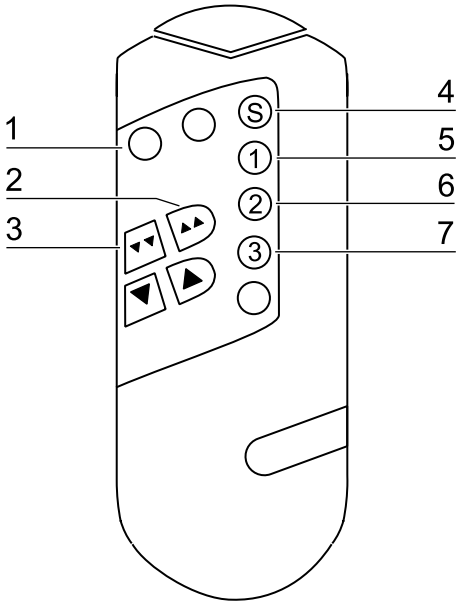

Fig. 3
Height adjustment start-up

4.4 Initial operation of the height adjustment

Fig. 3: For the initial operation of the height adjustment, the synchronizer module must be initialized.

1. To start initialization:

   Press the Store button Ⓢ three times in rapid succession.

2. Lower both sidemembers all the way down to the stop (until the relays switches audibly):

   Keep the Down button ▼▼ depressed.

3. The height adjustment synchronizer and the remote control are now operational.

4.5 Storing / retrieving positions

Fig. 3: Positions can be stored using the three memory buttons [5], [6] and [7]. Each button can be assigned with one position. If a new psition is to be stored, the existing position is overwritten.

1. Move the rack to the desired position.
   Keep the Down button ▼▼ / Up button ▲▲ depressed.

2. Select the store function:
   Press the Store button Ⓢ three times in rapid succession.

3. Select the memory location:
   Press the Memory button ①, ② or ③.

4. To retrieve a stored position from the memory:
   Press the Memory button ①, ② or ③.

4. Start-up

4.6 Troubleshooting

If a failure occurs, always check the following:

1. Is the power supply for the synchronizer module operative?

2. Are the connecting cables OK and connected securely to the receptacles?

3. Are the motor drives of both sidemembers connected properly to the synchronizer module?

If the tests above fail to repair the failure, contact the Technical Service of Kendro Laboratory Products.

5. Shut-down

For a complete shut-down, the synchronizer module must be disconnected from the power supply.

6. Maintenance

The electronically heigh-adjustable rack is maintenance-free.

7. Technical data

Dimensions:	
Height adjustment range	680 - 880 mm
Depth	750 mm
Width KS 9	1000 mm
Width KS 12	1300 mm
Width KS 15	1600 mm
Width KS 18	1900 mm
Input voltage EU	230 V AC, 50/60 Hz
Input voltage USA/CANADA	115 V AC, 50/60 Hz
Protection type:	IP 20
Connection to power supply:	
EU	230 V AC grounded outlet
USA/CANADA	115 V AC grounded outlet
Lift force	2 x 3000 N
Temperature resistance:	$J_{ambient\ min.}$ = -10° C $J_{ambient\ max.}$ = 60° C
Travel speed	8 mm/s

8. Spare parts

Description	**Part No.**
Electrical lift unit left	50078613
Electrical lift unit right	50078614
Synchronizer module 230 V	50078615
Synchronizer module 120 V	50078616
Remote control	50078617
Operating instructions	50077504

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